



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,498	02/25/2004	Darrell Bryant	04975-00009-US	3116

23416 7590 03/24/2005

CONNOLLY BOVE LODGE & HUTZ, LLP
P O BOX 2207
WILMINGTON, DE 19899

EXAMINER

BELLINGER, JASON R

ART UNIT	PAPER NUMBER
----------	--------------

3617

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/786,498

Applicant(s)

BRYANT ET AL.

Examiner

Jason R Bellinger

Art Unit

3617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5/17/04.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

Claim Objections

1. Claim 1 is objected to because of the following informalities: The term "set" should be replaced with the term --seat-- in line 10 for clarity. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wei ('763) in view of Cochran et al. In Figures 5-6, Wei shows a wheel having a disc 80 that may be fabricated from sheet metal (see column 3, lines 62-68) that while not shown, includes a central bolt circle mounting portion, and an intermediate portion extending radially outwardly from the mounting portion (both of these elements being well-known components of wheel discs). An outer peripheral portion of the disc 80 forms an outboard tire bead retaining flange.

A rim part 81 includes an inboard tire bead retaining flange, an inboard tire bead seat portion (both not shown, but well-known in the art), a drop-center well portion and an outboard bead seat portion. The outboard surface of the bead set portion includes serrations 86 (see Figure 6) that engage the outer peripheral portion of the disc 80 at mating serrations 87.

Art Unit: 3617

Wei does not show the outboard edge of the rim part including a radially in-turned rim flange portion that extends circumferentially around the rim edge adjacent the outboard bead seat, nor that the disc and rim are welded together. Cochran et al teaches the use of a disc wheel 10 having a disc 30, and a rim 20. The rim 20 includes a radially in-turned circumferentially continuous rim flange portion 40 that is adjacent an outboard bead seat 28. The disc 30 and rim 20 are welded together at the in-turned rim portion 40. Therefore from this teaching, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the rim of Wei with an in-turned portion for the purpose of increasing the area of contact between the rim and disc, thus forming a reinforced region. It further would have been obvious to weld the disc and rim of Wei for the purpose of creating a unitary wheel, thus reducing the risk of the disc separating from the rim during operation.

The serrations 86-87 of Wei would receive at least a portion of the weld, due to their location.

4. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wei ('763) in view of Cochran et al as applied to claim 1 above, and further in view of Shimizu et al.

Wei does not show an annular array of vent holes disposed in the intermediate section. Cochran et al teaches the use of a disc wheel having vent holes 38 in an intermediate portion. Therefore from this teaching, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the wheel of Wei with vent

Art Unit: 3617

holes for the purpose of allowing heat from brake components to escape and/or air to enter the area behind the wheel, thus preventing warpage of the wheel, or brake components due to heat retention during operation.

Wei as modified by Cochran et al does not show an axially inboard offset marginal portion surrounding each vent hole as reinforcement. Shimizu et al teaches the use of a disc wheel having vent holes 8 with axially inboard offset marginal portions 5 surrounding each vent hole 8 as reinforcement. Therefore from this teaching, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the wheel of Wei as modified by Cochran et al with reinforcing sections around each vent hole for the purpose of increasing the strength of the intermediate portion of the disc wheel to prevent warpage at the vent hole after prolonged usage.

While Wei as modified by Cochran et al and Shimizu et al does not specify that the vent holes are formed by a coining operation, only the structure of the product need be found in a product by process claim, given that the product may be formed by a different process (see MPEP 2113). In this case, the vent holes may be formed by a stamping, molding, or casting operation.

Wei shows that the rim may be roll-formed (see column 4, lines 39-49).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references are considered to show welded disc wheels. For example, Kanahori shows a welded disc wheel.

Art Unit: 3617

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason R Bellinger whose telephone number is 703-308-6298. The examiner can normally be reached on Mon - Thurs (9:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Morano can be reached on 703-308-0230. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jason R Bellinger
Examiner
Art Unit 3617

JASON R. BELLINGER
PATENT EXAMINER

jrb

[Signature]
3/19/05